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ABSTRACT

A semiconductor material and a method for forming the same, said semiconductor material having produced by a process comprising melting a noncrystal semiconductor film containing therein carbon, nitrogen, and oxygen each at a concentration of 5×10^{19} atoms \cdot cm $^{-3}$ or lower, preferably 1×10^{19} atoms \cdot cm $^{-3}$ or lower, by irradiating a laser beam or a high intensity light equivalent to a laser beam to said noncrystal semiconductor film, and then recrystallizing the thus molten amorphous silicon film. The present invention provides thin film semiconductors having high mobility at an excellent reproducibility, said semiconductor materials being useful for fabricating thin film semiconductor devices such as thin film transistors improved in device characteristics.